

**Bonneville Power Administration  
Fish and Wildlife Program FY99 Proposal**

**Section 1. General administrative information**

**Acquire 1860 Fifteenmile Creek irrigation water right and convert to instream water right**

**Bonneville project number, if an ongoing project** 9087

**Business name of agency, institution or organization requesting funding**

Oregon Water Trust

**Business acronym (if appropriate)** OWT

**Proposal contact person or principal investigator:**

|                 |                               |
|-----------------|-------------------------------|
| Name            | Leslie Bach                   |
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**Subcontractors.**

| Organization                    | Mailing Address                                  | City, ST Zip            | Contact Name                             |
|---------------------------------|--|-------------------------|--|
| Oregon Water Resources Dept.    | 502 E. 5th St.,<br>Courthouse Annex<br>B, Rm 218 | The Dalles, OR<br>97058 | Larry Toll,<br>Watermaster<br>District 3 |
| Certified Water Rights Examiner | To be determined                                 |                         |  |
|                                 |  |                         |  |

**NPPC Program Measure Number(s) which this project addresses.**

7.6D (Habitat Objectives), 7.8G.1, 7.8G.2 (Instream Flows for Salmon and Steelhead)

**NMFS Biological Opinion Number(s) which this project addresses.**

None

**Other planning document references.**

Wy-Kan-Ush-Mi Wa-Kish-Wit, Spirit of the Salmon, The Columbia River Anadromous Fish Restoration Plan of the Nez-Perce, Umatilla, Warm Springs and Yakama Tribes. Volume I Pages 5B-11 and 5B-12; Volume II Pages 34-35.

Return to the River, Restoration of Salmonid Fishes in the Columbia River Ecosystem. Independent Science Group. Pages 354-355.

Fifteenmile Creek Subbasin Salmon and Steelhead Production Plan. Oregon Dept. of Fish and Wildlife and Confederated Tribes of the Warm Springs Reservation of Oregon. Page 16.

Fifteenmile Watershed Enhancement Action Plan. Fifteenmile Watershed Council. Pages 7, 9, 17.

Fifteenmile Basin Fish Habitat Improvement Implementation Plan. Oregon Department of Fish and Wildlife and USDA-Forest Service, Mt. Hood National Forest. Pages 7, 14.

Fish Habitat Improvement Projects in the Fifteenmile Creek and Trout Creek Basins of Central Oregon: Field Review and Management Recommendations. Kauffman, Beschta and Platts. Pages 3, 4, 6, 8, 12.

Watershed Analysis, Miles Creek Watershed. USDA-Forest Service, Mt. Hood National Forest. Pages 5, 41

Letters of Support:

Oregon Department of Water Resources, Watermaster District 3

Wasco County Soil and Water Conservation District

Oregon Department of Fish and Wildlife

Confederated Tribes of the Warm Springs Reservation

**Subbasin.**

Fifteenmile Creek

**Short description.**

Increase instream flows in a water quantity and quality limited system by purchasing a senior water right and transferring to a legally protected instream water right. Monitor and protect instream water right and identify additional opportunities for instream water right acquisitions.

## Section 2. Key words

| Mark | Programmatic Categories | Mark | Activities       | Mark | Project Types         |
|------|-------------------------|------|------------------|------|-----------------------|
| X    | Anadromous fish         |      | Construction     | X    | Watershed             |
| *    | Resident fish           |      | O & M            |      | Biodiversity/genetics |
|      | Wildlife                |      | Production       |      | Population dynamics   |
|      | Oceans/estuaries        |      | Research         |      | Ecosystems            |
|      | Climate                 |      | Monitoring/eval. | *    | Flow/survival         |
|      | Other                   |      | Resource mgmt    |      | Fish disease          |
|      |                         |      | Planning/admin.  |      | Supplementation       |
|      |                         |      | Enforcement      |      | Wildlife habitat en-  |
|      |                         | X    | Acquisitions     |      | hancement/restoration |

### Other keywords.

instream water rights, flow, water quantity, water quality, fish habitat

## Section 3. Relationships to other Bonneville projects

| Project # | Project title/description | Nature of relationship |
|-----------|---------------------------|------------------------|
|           |                           |                        |
|           |                           |                        |
|           |                           |                        |

## Section 4. Objectives, tasks and schedules

| Obj<br>1,2,3 | Objective   | Task<br>a,b,c | Task   |
|--------------|---|---------------|--|
| 1            | Increase instream flows by acquiring 1860 irrigation water right and transferring to a senior instream water right on Fifteenmile Creek | a             | finalize water right purchase agreement with landowner                                       |
|              |   | b             | obtain funding for acquisition   |
|              |   | c             | conduct survey of water right by certified water rights examiner                             |
|              |   | d             | develop transfer application to convert irrigation right to a permanent instream water right |
|              |   | e             | submit application to Oregon Water Resources Department (OWRD)                               |
| 2            | Monitor instream water right for protection during 1999   | a             | work with OWRD field staff to develop a strategy for monitoring                              |

|   |   |   |   |
|---|---|---|---|
| 3 | irrigation season and develop future monitoring strategy for ecological value   |   | the instream flow   |
|   |   | b | conduct periodic site visits with OWRD to ensure instream water right protection                            |
|   |   | c | collect stream discharge measurements as needed throughout irrigation season                                |
|   |   | d | coordinate with federal, state, and tribal biologists to develop a strategy for monitoring ecological value |
|   | Promote benefits of acquisition to other Fifteenmile Creek water right holders to encourage additional water right acquisitions | a | distribute press release to local and statewide media outlets   |
|   |   | b | make presentation about acquisition to Fifteenmile Creek Watershed Council                                  |
|   |   | c | send letters describing acquisition to all priority water right holders on Fifteenmile Creek                |
|   |   | d | follow up on letters with phone calls to priority water right holders                                       |

### *Objective schedules and costs*

| <b>Objective #</b> | <b>Start Date<br/>mm/yyyy</b> | <b>End Date<br/>mm/yyyy</b> | <b>Cost %</b> |
|--------------------|-------------------------------|-----------------------------|---------------|
| 1                  | 5/1998                        | 3/1999                      | 88%           |
| 2                  | 1/1999                        | 9/1999                      | 9%            |
| 3                  | 11/1998                       | 2/1999                      | 3%            |
|                    |                               |                             |               |

#### **Schedule constraints.**

None

#### **Completion date.**

The acquisition will be completed in FY 1999. Monitoring and outreach to landowners will continue in FY 2000.

### **Section 5. Budget** *FY99 budget by line item*

| <b>Item</b>   | <b>Note</b>  | <b>FY99</b> |
|---|--|-------------|
| Personnel   | Project manager and staff scientist will spend 2.5% of time on the project | 2,500       |
| Fringe benefits   | Estimated at 4% of salaries  | 100         |
| Supplies, materials, non-expendable property                              | Paper, distribution of press release, and reproduction costs               | 100         |
| Operations & maintenance  |  |             |
| Capital acquisitions or improvements (e.g. land, buildings, major equip.) | 50% of \$30,000 purchase price will come from another source               | 15,000      |
| PIT tags  | # of tags:   |             |
| Travel  | 6 trips from Portland to site  | 500         |
| Indirect costs  | Overhead @ 15%   | 480         |
| Subcontracts  | Certified water rights examiner  | 500         |
| Other   | OWRD application and publication fees                                      | 450         |
| <b>TOTAL</b>  |  | 19,630      |

#### **Outyear costs**

| <b>Outyear costs</b> | <b>FY2000</b> | <b>FY01</b> | <b>FY02</b> | <b>FY03</b> |
|----------------------|---------------|-------------|-------------|-------------|
| Total budget         | \$1000        |             |             |             |
| O&M as % of total    | 15%           |             |             |             |

### **Section 6. Abstract**

Fifteenmile Creek supports the eastern-most run of wild winter steelhead, and a population of pacific lamprey. Past land use practices have resulted in habitat and water quality degradation. A major limiting factor for fish production and survival is severe low flow conditions due to irrigation withdrawal. The goal of this project is to increase production and survival of wild winter steelhead and pacific lamprey by increasing instream flows and improving habitat and water quality conditions. Specific objectives include purchasing an 1860 irrigation water right and transferring it to instream use, monitoring and protecting the instream right to prevent removal by junior appropriators, and outreach to other senior water right holders to identify additional acquisition opportunities. Acquiring instream water rights on a willing buyer, willing seller basis, and converting those rights to instream water rights meets the goals and objectives of the NPPC Fish and Wildlife Program measures 7.6D, 7.8G1 and 7.8G2. This project is also consistent with a number of assessment and restoration plans for Fifteenmile Creek, and compliments a collaborative restoration effort by ODFW, CTWSRO, USFS and the Wasco County SWCD that is funded by BPA. OWT will use the 1987 Instream Water Right Law to legally transfer the irrigation right to an instream right. Steps include finalizing the purchase agreement, obtaining a transfer map from a Certified Water Rights Examiner, and developing and submitting the transfer application to OWRD. OWT will work closely with the state watermaster to monitor the instream right and ensure protection relative to junior irrigation rights. This will include regular site visits and streamflow monitoring. OWT will also work with local agencies, organizations and the watershed council to develop a monitoring strategy for evaluating the ecological benefits of the instream flow. The instream water right transfer will be completed by the 1999 irrigation season. The increased instream flow will provide immediate benefit to fish habitat and water quality, and will provide a minimum flow to build on in the long-term.

## Section 7. Project description

### a. Technical and/or scientific background.

#### Background

Fifteenmile Creek watershed encompasses 238,720 acres in north central Oregon. From the headwaters, located in the Mt. Hood National Forest, Fifteenmile Creek flows in a northeast direction through high elevation timberland and lower elevation wheat, hay and pasture land, and enters the Columbia River at River Mile (RM) 192, just downstream from The Dalles Dam and just upstream from the city of The Dalles, Oregon. From the mouth of Fifteenmile to RM 44, stream gradient is low, averaging approximately 0.6 percent grade, with grade increasing markedly to the headwaters, approximately 5.4 miles upstream (ODFW/CTWSRO, 1990). The hydrology of Fifteenmile is characterized by a high spring runoff from winter snowmelt combined with spring rain. During the summer months, many areas of the Fifteenmile watershed receive little precipitation. This fact, combined with extensive withdrawal of water, primarily for irrigation, creates a situation of very low streamflow during late summer.

Fifteenmile Creek supports the eastern-most population of wild winter steelhead in the Columbia River Basin. There have never been releases of hatchery winter steelhead in the Fifteenmile Creek system, making this run an important unique wild stock. Considered part of the Middle Columbia Ecologically Significant Unit (ESU), Fifteenmile Creek winter steelhead are a candidate for listing under the Endangered Species Act. Fifteenmile Creek also supports a population of Pacific Lamprey, an indigenous species that is currently listed as a State Sensitive Species (Mt. Hood National Forest, 1994).

The Fifteenmile Creek Watershed is entirely located within lands ceded to the United States Government by the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO). The Treaty mandates sufficient water quality and quantity to maintain the fishery resource. Historically, the Warm Springs Tribes had traditional subsistence fisheries for both winter steelhead and pacific lamprey at Seufert Falls, just upstream from the mouth of Fifteenmile Creek. Subsistence and recreational fisheries for both species has been closed since 1984 to conserve declining runs.

#### Problem

Little information is available on the current status of winter steelhead in the Fifteenmile Creek watershed. It is believed that the run is in fair shape, but is at a very low level of production. In addition, there is very little information on the current status of pacific lamprey.

One major factor affecting the current condition of steelhead and lamprey is the extensive degradation and loss of spawning and rearing habitat due to past and current land management practices. Timber production, livestock grazing and agricultural production have all contributed to removal of riparian and upland vegetation, increased soil erosion, and alteration of channel morphology. In addition, the stream is overappropriated, causing the need for regulation by the watermaster every summer. Although there is currently an instream water right in Fifteenmile Creek, the 1983 priority date is junior to most of the out-of-stream water rights, resulting in little water being left for fish. The water right decree for Fifteenmile Creek provides the watermaster with the legal authority to only maintain continuous live flow, not to provide sufficient flow for water quality and fish. During most of the irrigation season, flows are a limiting factor for salmonid production and survival. Removal of riparian vegetation and extremely low streamflow have contributed to high summer stream temperatures. Temperatures routinely exceed state standards during the irrigation season (Mt. Hood National Forest, 1994). Fifteenmile Creek is listed on the 1994/1996 303(d) List of Water Quality Limited Waterbodies due to flow modification, habitat modification, sediment and summer temperature (Oregon Department of Environmental Quality, 1996).

Planners estimate the current steelhead run size to be about 200 to 300 adults, and believe that the Fifteenmile Creek watershed has the capacity to sustain a run of 400 to 600 adults. In order to meet those objectives, restoration is needed to increase streambank cover, increase streamflow and decrease stream temperatures.

### Relationship to Existing Assessments/Plans

There have been several analyses of the Fifteenmile Creek watershed that have demonstrated that current habitat conditions are degraded, and restoration efforts are needed to improve conditions for indigenous species. An important component of fish habitat is adequate streamflow. Along with the physical habitat provided by instream flows, streamflow is needed for re-establishing riparian vegetation and improving water quality. This project is part of a variety of other efforts to improve water quantity, quality and fish habitat in Fifteenmile Creek as called for in program measure 7.6 of the Fish and Wildlife Program (NPPC, 1994). Acquiring instream water rights on a willing buyer/willing seller basis, and converting those rights to legally protected instream water rights meets the goals and objectives of Fish and Wildlife Program measures 7.6D, 7.8G1 and 7.8G2.

This proposal is consistent with a number of assessment and restoration plans developed for the Fifteenmile Creek subbasin. The Fifteenmile Creek Salmon and Steelhead Plan (ODFW and CTWSRO, 1990) identifies two objectives, 1) to protect and enhance aquatic and riparian habitat to optimize the production of desired species and 2) to provide optimum habitat for all freshwater life history stages of anadromous salmonids. The Salmon and Steelhead Plan recognizes that along with the habitat restoration measures it proposes, there is a need for purchase of existing (senior) water rights. In addition, a review of existing fish habitat improvement projects in Fifteenmile Creek by Kauffman, Beschta and Platts (1992) concluded that along with fencing and other habitat projects, purchase of water rights to augment instream flows during critical summer periods should be part of restoration efforts (page 8).

The recently published Fifteenmile Watershed Enhancement Action Plan identifies high summer temperatures and poor water quality as significant concerns and lists objectives for summer baseflow levels and stream temperature. The plan calls for a number of restoration measures to meet these and other watershed objectives, including increased instream flows. Acquisition of the proposed instream water right will contribute to meeting the baseflow and temperature objectives listed in this plan.

### Progress to Date

Over the past decade, a number of fish habitat and water quality restoration projects have been implemented in Fifteenmile Creek. As called for in measure 7.7 of the Northwest Power Planning Council's (NPPC) Fish and Wildlife Program (FWP), these projects have involved collaboration among state and federal agencies, tribes, local watershed councils and private landowners. Bonneville Power Administration (BPA) has funded a cooperative restoration project implemented by the Oregon Department of Fish and Wildlife (ODFW), the Confederated Tribes of the Warm Springs Reservation (CTWSRO), the U.S. Forest Service (USFS) and the Wasco County Soil and Water Conservation District (SWCD) (Project Number 9304000, Contract # 95BI60772). These projects are designed to improve passage conditions for both juvenile and adult fish, improve spawning and rearing habitat, and increase egg-to-smolt survival rates. Highlights of their efforts include: 1) riparian fencing for livestock exclusion, from the headwaters of Fifteenmile Creek to approximately RM 20, a distance of approximately 35



miles 2) screens for most, if not all, irrigation diversions, 3) fish ladders at irrigation diversions that were passage barriers for anadromous fish, and 4) placement of weirs and flow deflectors to create instream structure. In the upper part of the watershed, the Mt. Hood National Forest has implemented projects to protect and improve riparian and upland vegetation, improve natural water storage capacity and decrease soil erosion. The results have been significant improvement in riparian vegetative growth, better summer rearing habitat and decreased mortality of anadromous fish at diversion structures. These efforts will be greatly enhanced by increases in instream flows.

In 1996, The Oregon Water Trust (OWT) identified Fifteenmile Creek as a priority stream for increasing instream flow through water right acquisitions. Changes in Oregon Water Law in 1987 allow OWT to acquire instream water rights through two strategies: 1) water right holders can donate, lease, or sell all, or a portion, of their water right to OWT and 2) water right holders can develop a more efficient water delivery system, and can convert their "conserved water" into an instream water right. When these rights are converted, either temporarily or permanently, they retain the original priority date. Working with the Oregon Water Resources Department (OWRD) and ODFW, OWT identified the amount, location and priority dates of irrigation water rights to target for acquisition and conversion to instream water rights. OWT researched the names and addresses of the holders of the targeted water rights, and created a list of priority water right holders on Fifteenmile Creek. OWT has begun to contact these priority water rights holders via letters, phone calls or community meetings. Through this effort, OWT identified a willing seller of an 1860 priority date water right. OWT's prioritization effort also resulted in a one-year lease with the City of Dufur during the 1997 irrigation season to create an instream water right from their municipal right. It is anticipated that the lease will be renewed for the 1998 irrigation season.

**b. Proposal objectives.**

The overall goal of the project is to increase production and survival of wild winter steelhead in Fifteenmile Creek by increasing instream flows and improving habitat and water quality conditions.

Objective 1 of the proposal is increase instream flows by permanently acquiring an 1860 priority date water right for 0.23 cfs from 23.4 acres. The existing use of the 23.4 acre field is irrigated wheat located in the floodplain of Fifteenmile Creek. The field is a very small part of the landowner's operation. He has indicated that he no longer wants to irrigate the land, which sustained heavy damage during the February 1996 flood, and is planning to convert it to native grasses. There is no livestock grazing on this field. Based on information from other water right transfers and discussions with the landowner, the value of the water right is between \$400 and \$450 per acre-foot of water. This project provides a significant, immediate opportunity to create an instream water right on a willing buyer, willing seller basis.

The water right is one of the most senior rights on Fifteenmile; there are two senior water rights upstream and one senior water right downstream from the existing point of

diversion (pod). The "instream reach" created from the purchase will extend from the existing pod at approximately River Mile 21 to the mouth of Fifteenmile Creek. Due to the senior priority date, the instream right should be protectable throughout the irrigation season. It will also be protectable through the entire length of the creek because under Oregon Water Law, the water right can be "called" past upstream irrigators to the pod and then protected in the instream reach from the pod to the mouth past junior water right holders. While this is a small amount of water, OWT intends to continue to build on this acquisition to create a target, minimum flow in Fifteenmile Creek that will be fully protectable during the low flow period. The 0.23 cfs will be added to any other instream water rights, for example the instream right created through the lease with the City of Dufur. The increase in streamflow will expand the available rearing habitat, contribute to decreasing stream temperature and increase the number of smolts from the Fifteenmile system.

Objective 2 of the proposal is to monitor the instream right both to ensure protection and to evaluate the ecological benefit of the project. Due to the high demand for water in Fifteenmile Creek, there is a potential for the instream right to be removed by junior water right holders. OWT will work with OWRD staff to ensure that the instream right will be protected based on its priority date. OWT's staff scientist will contact the local watermaster on a regular basis, and will conduct site visits with the watermaster periodically throughout the irrigation season. OWT's staff scientist will also directly monitor streamflow as needed to confirm protection of the instream water right. Completing this objective will ensure that the water right acquisition is providing the maximum instream benefit for fish.

The second part of this objective involves developing a monitoring strategy for evaluating the ecological benefits gained by increasing instream flows. This will be difficult to accomplish, given the limited baseline data available for Fifteenmile Creek. The goal of a monitoring strategy would be to demonstrate positive trends in fish habitat, water quality and fish production over time. While this may not be attributable to any one protection and restoration measure, it would demonstrate movement to overall production goals. OWT will work with ODFW, the USFS and the Watershed Council to develop a monitoring strategy that includes monitoring winter steelhead smolt production and adult escapement, documenting changes in fish habitat and evaluating water quality conditions.

Objective 3 of the proposal is to promote the benefits of the acquisition to other water right holders on Fifteenmile Creek to encourage additional water right acquisitions. OWT will use its list of priority water right holders to work toward acquiring enough water to meet flow objectives identified in Fifteenmile Creek watershed plans. OWT will be contacting these water right holders using local and regional media, presentations at watershed councils, and letters and phone calls. Successful outreach will result in further acquisitions of instream water rights, eventually leading to a protectable, target streamflow for Fifteenmile Creek.

Additionally, OWT will use this project to further institutional support and understanding of water markets as a tool for permanent instream flow enhancement. There is still much

resistance in the state and the region to removing water rights from the land and creating instream water rights in perpetuity. This project will serve as an example of a water right purchase based on a willing buyer, willing seller approach and will demonstrate the benefits of the deal to both the landowner and the stream.

**c. Rationale and significance to Regional Programs.**

Increases in summer streamflow are needed to improve habitat and water quality for steelhead and lamprey. The current allocation of water rights in Fifteenmile Creek provides for all of the water to be used in the late summer for irrigation. Existing water law allows for application of new instream water rights, but these will be junior to existing irrigation rights, and will thus not be met during times of critical low flow. Oregon Water Law allows for the purchase of existing water rights, and conversion of those water rights to instream rights that retain the original priority date. Through water right acquisitions, it is possible to create instream water rights that can be protected throughout the irrigation season. Sections 7.6D, 7.G1 and 7.G2 of the NPPC FWP state that where instream flow needs of salmon and steelhead are not being met, the council recommends acquiring instream water rights on a willing buyer, willing seller basis.

Return to the River, an analysis of restoration of salmonids in the Columbia River system by the Independent Science Group states that re-establishment of instream flows in key reaches is an urgent priority for restoration efforts (page 354).

Wy-KAN-USH-MI WA-KISH-WIT, The Columbia River Anadromous Fish Restoration Plan of the Nez-Perce, Umatilla, Warm Springs and Yakama Tribes discusses the issue of inadequate streamflows and recommends establishing instream flows to meet the desired range of habitat conditions (Volume I, pages B-11 and B-12). Specific actions listed for Fifteenmile Creek include increasing streambank cover, decreasing summer water temperature and increasing streamflow (Volume II, Page 35).

As discussed in part a, there has been an extensive restoration effort in Fifteenmile Creek, a significant portion of which has been funded by BPA. Although these projects have protected and enhanced fish habitat and water quality, they have only partially addressed an important limiting factor, low streamflow. This project will complement these efforts by providing much needed streamflow that will enhance fish habitat, provide water to spur riparian re-vegetation, and improve water quality, particularly stream temperature. OWT has a close working relationship with OWRD, ODFW, CTWSRO, Wasco County SWCD and the local Watershed Council (see attached letters of support).

**d. Project history** (for continuing projects).

This is a new project.

**e. Methods.**

The instream water law, passed in 1987 allows an individual or organization to acquire water rights through gift, lease or purchase, and convert these rights to legally protected instream water rights that retain the original priority date. OWT was formed in 1993 to utilize this law as a tool for enhancing habitat and improving water quality conditions to benefit anadromous and resident fish. Over the last 5 years, OWT has developed the expertise to negotiate water right agreements with landowners, transfer water rights from irrigation to instream use, and monitor water rights to ensure protection.

There are number of steps that need to be completed to create the instream water right. Tasks include 1) finalizing the water right purchase agreement with the landowner, 2) obtaining a certified water rights examination of the property, and 3) developing and submitting the transfer application to OWRD. OWT will be the lead on these tasks with subcontracting provided by a Certified Water Rights Examiner. Once the agreement is finalized with the landowner, there should be no other factors that would limit the success of this part of the project.

Monitoring is an important component of this project. Due to the nature of instream water rights, and the high demand for water in the system, active monitoring will be required to ensure protection of the instream water right. OWT considers protection of instream water right acquisitions as an important part of its mission, and will work with OWRD to develop a strategy for monitoring and protecting the instream water right. The local watermaster now actively monitors flow and enforces water rights on Fifteenmile to meet irrigation needs. He is supportive of the instream water right acquisition and is committed to protecting the water right based on its priority date (see attached letter of support). OWT will also directly measure streamflow as needed to ensure and document protection.

Monitoring will need to be conducted to evaluate the ecological benefit of the instream water right. Currently there is little data available for Fifteenmile Creek. Other organizations, including ODFW and the Fifteenmile Creek Watershed Council are also proposing monitoring programs for Fifteenmile Creek. Specifically, information is needed on run size, smolt production, streamflow, stream temperature and habitat conditions. OWT will work with these entities to develop a cooperative monitoring project that will provide information on current conditions and trends in habitat and water quality.

Outreach to landowners will be conducted to identify additional water right acquisitions. OWT will provide press releases about the project to a broad network of media outlets. OWT has already developed a list of priority water right holders, and will use this information to contact individuals through letters and phone calls. Working with the Fifteenmile Creek Watershed Council, OWT will conduct landowner meetings to discuss the implications of the current project and to identify interested landowners.

**f. Facilities and equipment.**

OWT owns a Marsh-McBirney flow meter for measuring streamflow. This state-of-the-art equipment is highly accurate for measuring low flow conditions. OWT also has a number of Onset brand temperature recorders for measuring stream temperature if needed for evaluating ecological benefit. OWT's office is fully equipped with computers and software necessary for processing water right transfer applications and compiling, analyzing and displaying monitoring data.

**g. References.**

Columbia River Inter-Tribal Fish Commission. 1996. Wy-Kan-Ush-Mi Wa-Kish-Wit, Spirit of the Salmon, The Columbia River Anadromous Fish Restoration Plan of the Nez-Perce, Umatilla, Warm Springs and Yakama Tribes.

Fifteenmile Watershed Council. 1997. Fifteenmile Watershed Enhancement Action Plan. Wasco County Soil and Water Conservation District.

Kauffman, J.B., R.L. Beschta and W.S. Platts. 1992. Fish Habitat Improvement Projects in the Fifteenmile Creek and Trout Creek Basins of Central Oregon: Field Review and Management Recommendations. Bonneville Power Administration.

Mt. Hood National Forest. 1994. Watershed Analysis, Miles Creek Watershed. U.S. Department of Agriculture - Forest Service.

Oregon Dept. of Environmental Quality. 1996. 1994/1996 303(d) List of Water Quality Limited Waterbodies.

Oregon Dept. of Fish and Wildlife and Confederated Tribes of the Warm Springs Reservation of Oregon. 1990. Fifteenmile Creek Subbasin Salmon and Steelhead Production Plan. Northwest Power Planning Council.

Smith, R., J. Newton, R. Boyce, D. Heller, H. Forsgren and K. MacDonald. Fifteenmile Basin Fish Habitat Improvement Implementation Plan. 1987. Oregon Department of Fish and Wildlife and USDA-Forest Service, Mt. Hood National Forest.

Williams, R.N., L.D. Calvin, C.C. Coutant and others. 1996. Return to the River, Restoration of Salmonid Fishes in the Columbia River Ecosystem. Independent Science Group.

## **Section 8. Relationships to other projects**

As discussed in part a, there has been an extensive restoration effort in Fifteenmile Creek, a significant part of which has been funded by BPA. The BPA project is a collaborative effort among ODFW, CTWSRO, USFS and the Wasco County SWCD. These projects have targeted improved passage conditions for both juvenile and adult fish, improved spawning and rearing habitat, and increased egg-to-smolt survival rates. The results have been significant increases in riparian vegetative growth, better summer rearing habitat and decreased mortality of anadromous fish at diversion structures. The proposed project will complement these efforts by providing much needed streamflow that will enhance fish habitat, provide water to spur riparian re-vegetation, and improve water quality, particularly stream temperature.

OWT has a close working relationship with the BPA project sponsors and the local Watershed Council. OWRD will be instrumental in ensuring that the instream water right is protected throughout the irrigation season. They are supportive of instream water rights and have indicated their commitment to protection. ODFW has provided expertise on questions of flow targets and habitat requirements. They will continue to be an important partner in the monitoring of the instream water right and the evaluation of ecological benefits. The SWCD and the local Watershed Council have provided assistance in landowner outreach and promotion of instream flow as a tool for restoring winter steelhead runs.

In 1997, OWT leased an instream water right from the City of Dufur. The water rights associated with the lease had a variety of priority dates, from 1886 through 1977. The total amount of water leased was 1.85 cfs, however only part of the water right was protectable throughout the irrigation season due to the priority dates. OWT anticipates that the instream lease will be renewed in 1998. The most senior of these rights, 1886, is for 0.46 cfs, which is likely protectable throughout the irrigation season. The instream water right created from this project would be added to this lease to create a larger block of water protected instream.

## **Section 9. Key personnel**

Andrew Purkey, MPP, Executive Director .025 FTE. **Tasks:** Finalize water right agreement with landowner, coordinate with Certified Water Right Examiner, develop and submit transfer application, work on press releases, contact landowners.

Leslie Bach, Ph.D., Staff Scientist/Hydrologist .025 FTE. **Tasks:** Provide input on ecological aspects of water right transfer, work with OWRD to ensure water right protection, perform on-site flow measurements, coordinate with agencies and local organizations to develop monitoring plan, outreach to watershed council and landowners.

## **Section 10. Information/technology transfer**

OWT will use broadcast fax and direct contact to provide information to a variety of media including newspapers and radio programs. OWT will conduct presentations at watershed council meetings and will use letters and phone calls to reach priority water right holders in Fifteenmile Creek.

OWT has full spreadsheet, database and Geographical Information Systems capabilities. Data compiled or collected through this project will be shared with local agencies and watershed councils as raw data, summarized statistics, graphs and GIS maps.